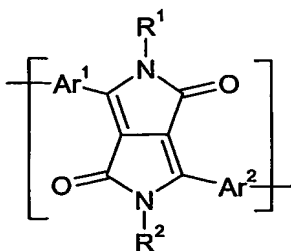


Claims

1. A polymer comprising a repeating unit of the formula



(I), wherein

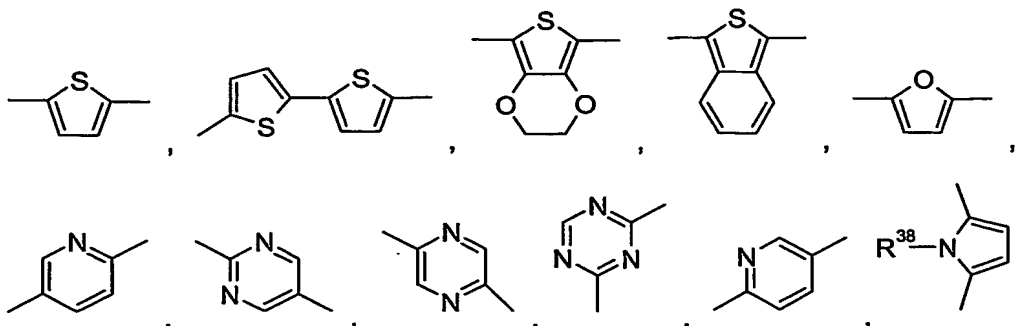
Ar¹ and Ar² are independently of each other a C₆-C₃₀aryl group or a C₂-C₂₆heteroaryl group, which can optionally be substituted,

R¹ and R² may be the same or different and are selected from a C₁-C₂₅alkyl group, which can optionally be interrupted by one or more oxygen atoms, an allyl group, which can be substituted one to three times with C₁-C₄alkyl, a cycloalkyl group, which can be substituted one to three times with C₁-C₈alkyl, or C₁-C₈alkoxy, or a cycloalkyl group, which can be condensed one or two times by phenyl, which can be substituted one to three times with C₁-C₄-alkyl, halogen, nitro or cyano, an alkenyl group, a cycloalkenyl group, an alkynyl group, a haloalkyl group, a haloalkenyl group, a haloalkynyl group, a ketone or aldehyde group, an ester group, a carbamoyl group, a ketone group, a silyl group, a siloxanyl group, Ar³ or -CR³R⁴-(CH₂)_g-Ar³, wherein

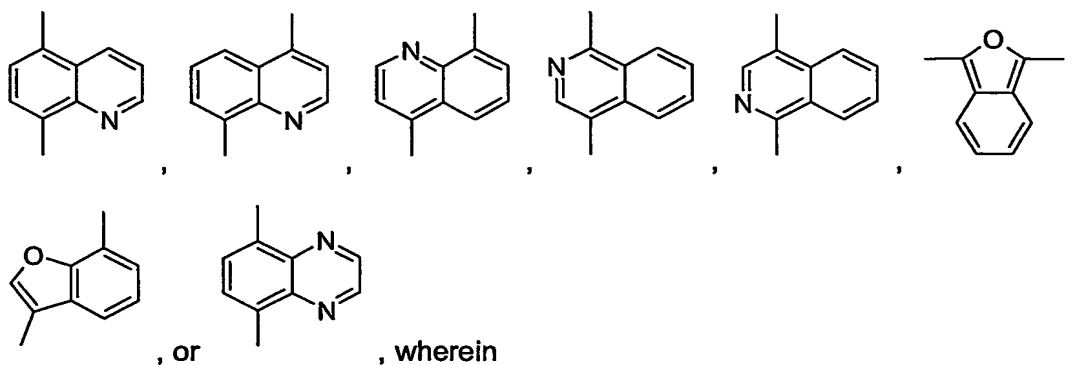
R³ and R⁴ independently from each other stand for hydrogen, fluorine, cyano or C₁-C₄alkyl, which can be substituted by fluorine, chlorine or bromine, or phenyl, which can be substituted one to three times with C₁-C₄alkyl,

Ar³ stands for aryl or heteroaryl, in particular phenyl or 1- or 2-naphthyl which can be substituted one to three times with C₁-C₈alkyl and/or C₁-C₈alkoxy, and g stands for 0, 1, 2, 3 or 4.

2. The polymer according to claim 1, wherein Ar¹ and Ar² are independently of each other

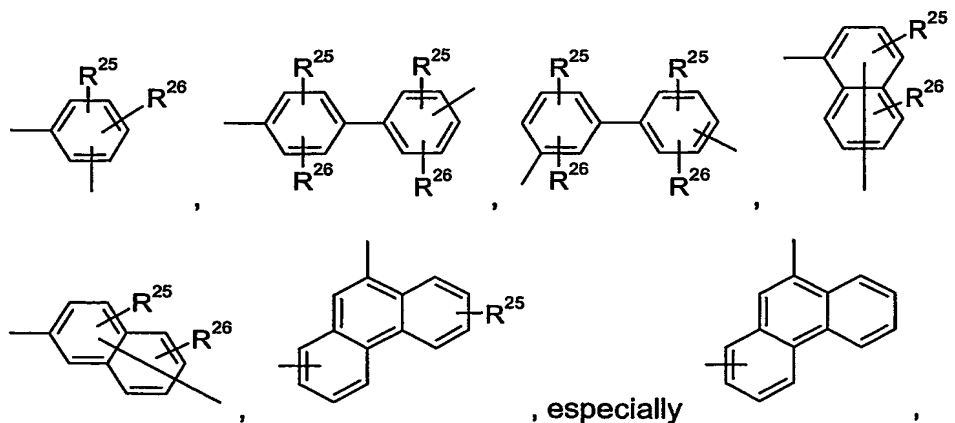
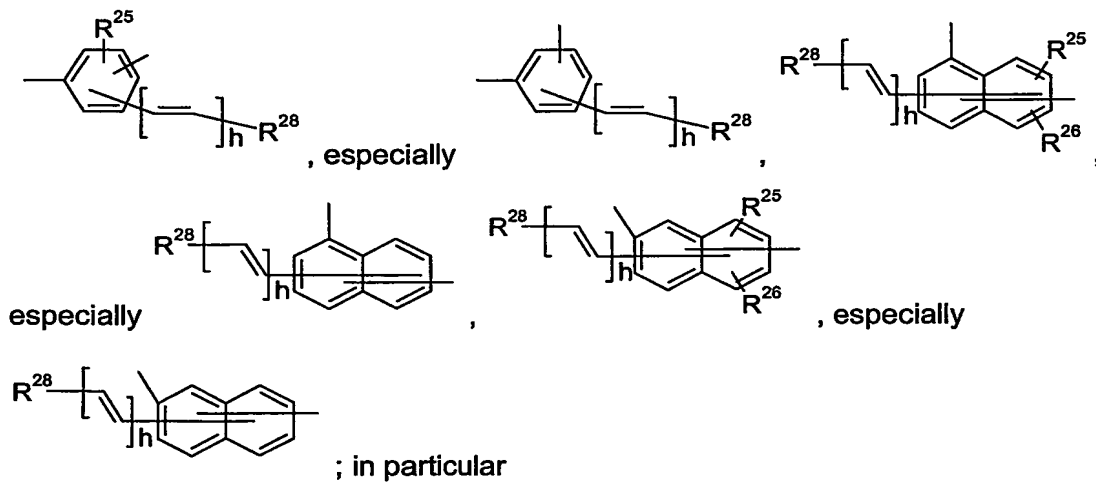


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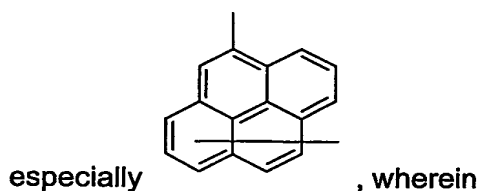
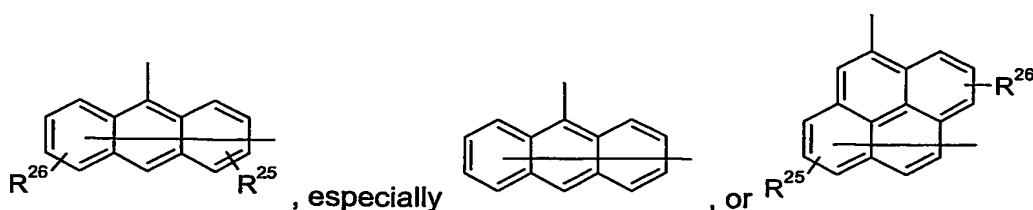


R³⁸ stands for hydrogen, C₆-C₁₀aryl, C₇-C₁₂alkylaryl, C₇-C₁₂aralkyl, or C₁-C₈-alkyl.

- 5 3. The polymer according to claim 1, wherein Ar¹ and Ar² are independently of each other

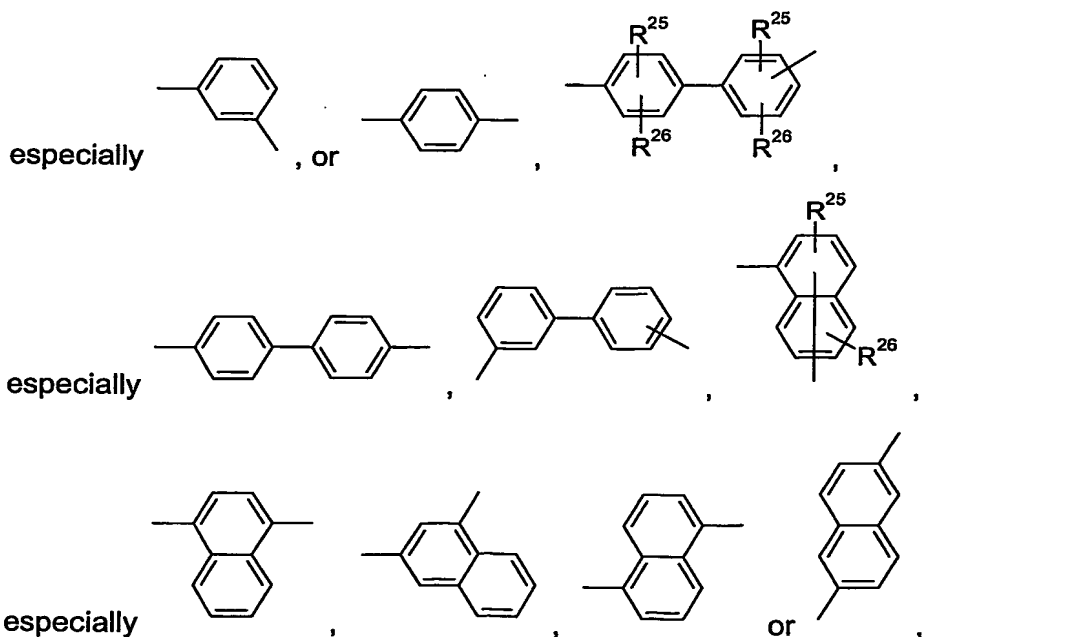


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R^{25} , R^{26} and R^{27} independently from each other stands for hydrogen, C_1 - C_{25} alkyl, C_1 - C_{25} alkoxy, $-CR^{11}R^{12}-(CH_2)_g-Ar^6$, cyano, NO_2 , halogen, $-OR^{29}$, $-NR^{29}R^{30}$, $-S(O)_pR^{31}$, C_2 - C_8 heteroaryl, such as thiophenyl, or C_6 - C_{14} aryl, such as phenyl, which can be substituted one to three times with C_1 - C_8 alkyl, or C_1 - C_8 alkoxy, wherein R^{29} and R^{30} independently of each other stand for H, C_1 - C_{25} -alkyl, C_5 - C_{12} -cycloalkyl, $-CR^{11}R^{12}-(CH_2)_g-Ph$, C_6 - C_{24} aryl, or a saturated or unsaturated heterocyclic group comprising five to seven ring atoms, wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, R^{31} stands for

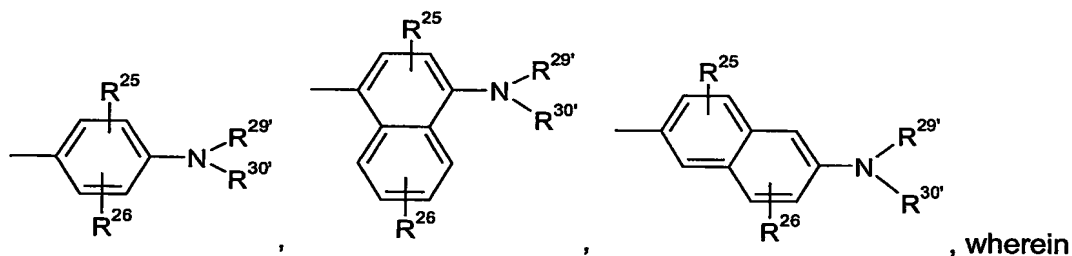
C_1 - C_{25} alkyl, or C_6 - C_{14} aryl, R^{28} stands for C_6 - C_{30} arylene, especially



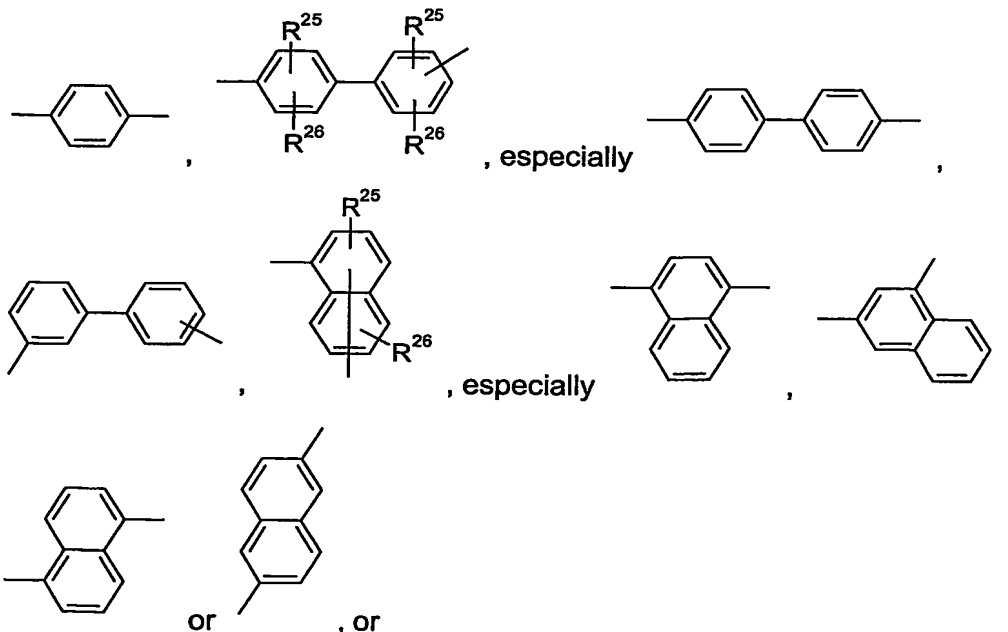
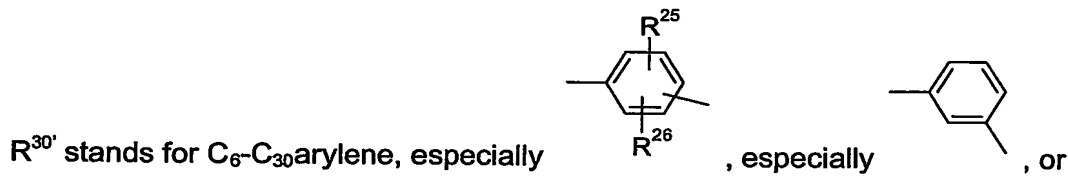
p stands for 0, 1, 2 or 3, g and h stands for 0, 1, 2, 3 or 4,

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Ar⁶ stands for phenyl or 1- or 2-naphthyl which can be substituted one to three times with C₁-C₈alkyl, C₁-C₈alkoxy, halogen, nitro, cyano, phenyl, which can be substituted with C₁-C₈alkyl or C₁-C₈alkoxy one to three times, -NR²³R²⁴, wherein R²³ and R²⁴ represent hydrogen, C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl or C₆-C₂₄-aryl, in particular phenyl or 1- or 2-naphthyl which can be substituted one to three times with C₁-C₈alkyl, C₁-C₈alkoxy, halogen or cyano, or phenyl, which can be substituted with C₁-C₈alkyl or C₁-C₈alkoxy one to three times, and R¹¹ and R¹² independently from each other stand for hydrogen, fluorine, cyano or C₁-C₄alkyl, which can be substituted by fluorine, or phenyl which can be substituted one to three times with C₁-C₄alkyl, or

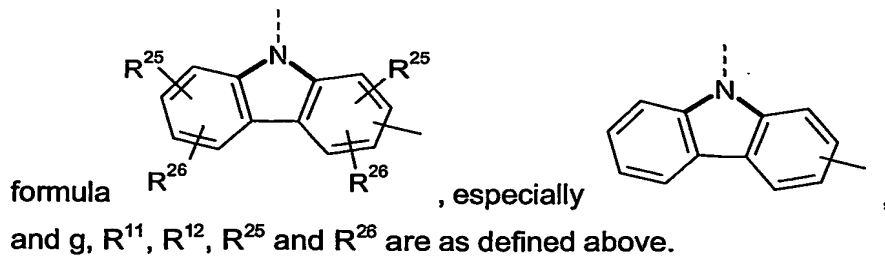


R^{29'} stands for H, C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl, -CR¹¹R¹²-(CH₂)₉-Ph, C₆-C₂₄aryl,

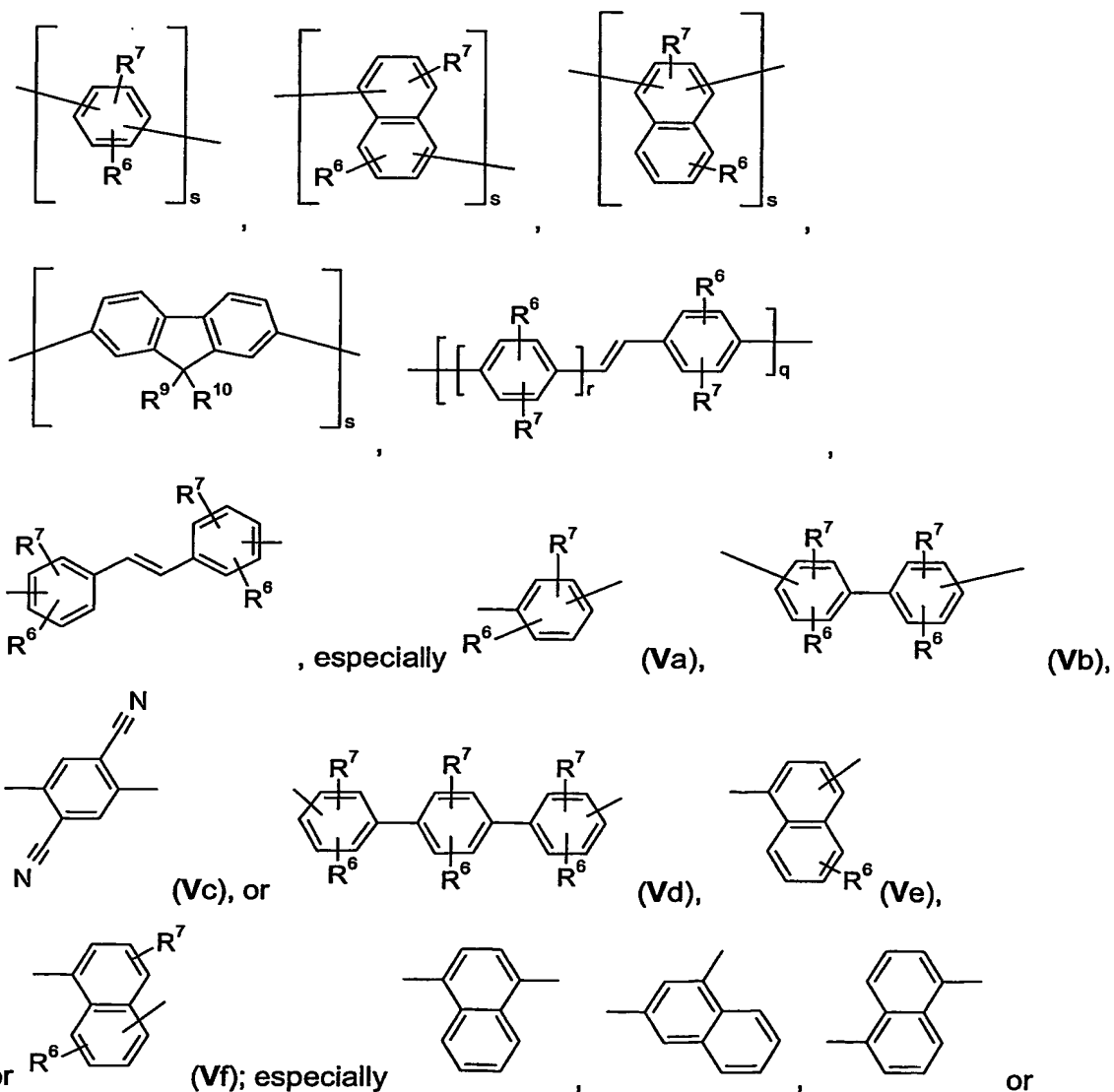


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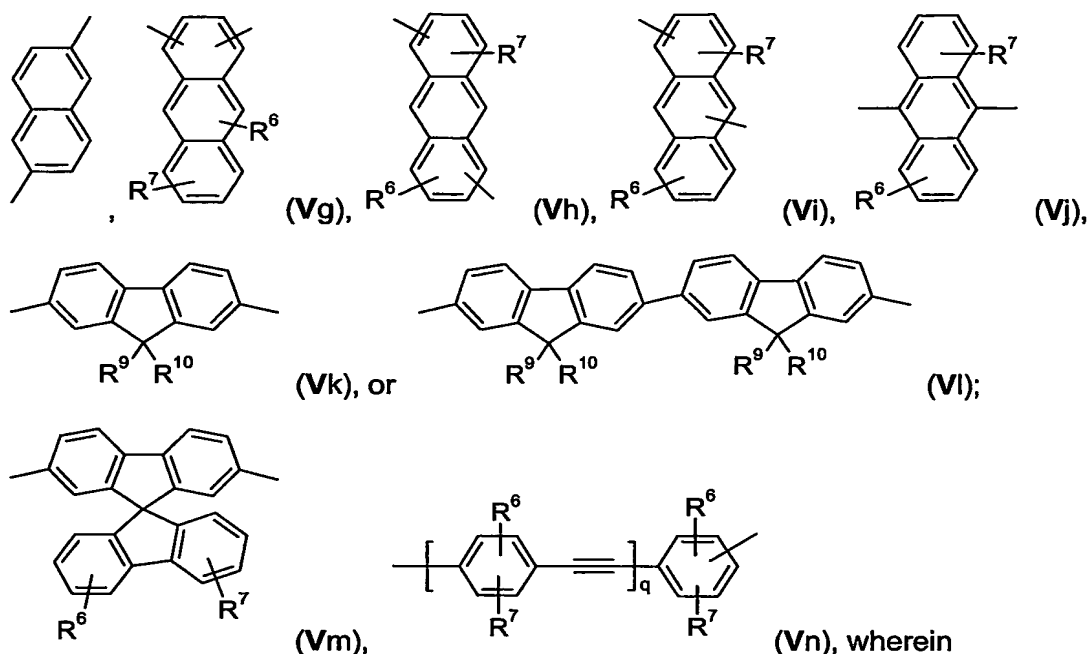
$R^{29'}$ and $R^{30'}$ together with the nitrogen to which they are bonded form a group of



- 5 4. The polymer according to any of claims 1 to 3, comprising one or more (at least one) repeating unit(s) Ar^3 which is selected from the group consisting of



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r is an integer from 1 to 10, especially 1, 2 or 3,

q is an integer from 1 to 10, especially 1, 2 or 3,

s is an integer from 1 to 10, especially 1, 2 or 3,

R⁶ and R⁷ are independently of each other H, halogen, -CN, C₁-C₁₈alkyl, C₁-C₁₈alkyl

which is substituted by E and/or interrupted by D, C₆-C₂₄aryl, C₆-C₂₄aryl which is

substituted by G, C₂-C₂₀heteroaryl, C₂-C₂₀heteroaryl which is substituted by G, C₂-

C₁₈alkenyl, C₂-C₁₈alkynyl, C₁-C₁₈alkoxy, C₁-C₁₈alkoxy which is substituted by E and/or
interrupted by D, C₇-C₂₅aralkyl, -C(=O)-R¹⁷, -C(=O)OR¹⁷, or -C(=O)NR¹⁷R¹⁸,

R⁹ and R¹⁰ are independently of each other H, C₁-C₁₈alkyl, C₁-C₁₈alkyl which is

substituted by E and/or interrupted by D, C₆-C₂₄aryl, C₆-C₂₄aryl which is substituted by

G, C₂-C₂₀heteroaryl, C₂-C₂₀heteroaryl which is substituted by G, C₂-C₁₈alkenyl, C₂-

C₁₈alkynyl, C₁-C₁₈alkoxy, C₁-C₁₈alkoxy which is substituted by E and/or interrupted by
D, or C₇-C₂₅aralkyl, or

R⁹ and R¹⁰ together form a group of formula =CR¹⁰⁰R¹⁰¹, wherein

R¹⁰⁰ and R¹⁰¹ are independently of each other H, C₁-C₁₈alkyl, C₁-C₁₈alkyl which is

substituted by E and/or interrupted by D, C₆-C₂₄aryl, C₆-C₂₄aryl which is substituted by

G, or C₂-C₂₀heteroaryl, or C₂-C₂₀heteroaryl which is substituted by G, or

R⁹ and R¹⁰ together form a five or six membered ring, which optionally can be

substituted by C₁-C₁₈alkyl, C₁-C₁₈alkyl which is substituted by E and/or interrupted by D,

C₆-C₂₄aryl, C₆-C₂₄aryl which is substituted by G, C₂-C₂₀heteroaryl, C₂-C₂₀heteroaryl

which is substituted by G, C₂-C₁₈alkenyl, C₂-C₁₈alkynyl, C₁-C₁₈alkoxy, C₁-C₁₈alkoxy

which is substituted by E and/or interrupted by D, C₇-C₂₅aralkyl, or -C(=O)-R¹⁷, and

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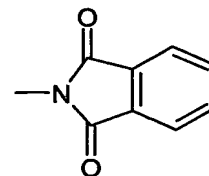
R^{16} and R^{17} are independently of each other H; C_6-C_{18} aryl; C_6-C_{18} aryl which is substituted by C_1-C_{18} alkyl, or C_1-C_{18} alkoxy; C_1-C_{18} alkyl; or C_1-C_{18} alkyl which is interrupted by $-O-$,

D is $-CO-$, $-COO-$, $-S-$, $-SO-$, $-SO_2-$, $-O-$, $-NR^{65}-$, $-SiR^{70}R^{71}-$, $-POR^{72}-$, $-CR^{63}=CR^{64}-$, or $-C\equiv C-$, and

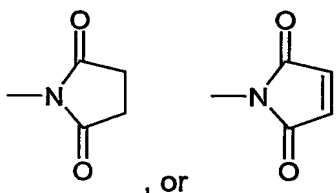
E is $-OR^{69}$, $-SR^{69}$, $-NR^{65}R^{66}$, $-COR^{68}$, $-COOR^{67}$, $-CONR^{65}R^{66}$, $-CN$, $-OCOOR^{67}$, or halogen,

G is E, C_1-C_{18} alkyl,

R^{63} , R^{64} , R^{65} and R^{66} are independently of each other H; C_6-C_{18} aryl; C_6-C_{18} aryl which is substituted by C_1-C_{18} alkyl, C_1-C_{18} alkoxy; C_1-C_{18} alkyl; or C_1-C_{18} alkyl which is interrupted by $-O-$; or



R^{65} and R^{66} together form a five or six membered ring, in particular

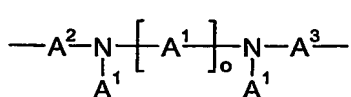


R^{67} and R^{68} are independently of each other H; C_6-C_{18} aryl; C_6-C_{18} aryl which is substituted by C_1-C_{18} alkyl, or C_1-C_{18} alkoxy; C_1-C_{18} alkyl; or C_1-C_{18} alkyl which is interrupted by $-O-$,

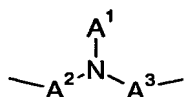
R^{69} is H; C_6-C_{18} aryl; C_6-C_{18} aryl, which is substituted by C_1-C_{18} alkyl, C_1-C_{18} alkoxy; C_1-C_{18} alkyl; or C_1-C_{18} alkyl which is interrupted by $-O-$,

R^{70} and R^{71} are independently of each other C_1-C_{18} alkyl, C_6-C_{18} aryl, or C_6-C_{18} aryl, which is substituted by C_1-C_{18} alkyl, and

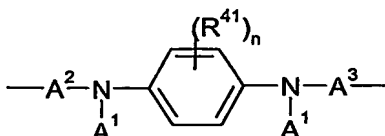
R^{72} is C_1-C_{18} alkyl, C_6-C_{18} aryl, or C_6-C_{18} aryl, which is substituted by C_1-C_{18} alkyl;



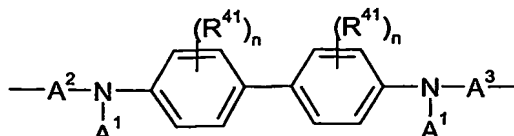
(IIa),



(IIb),

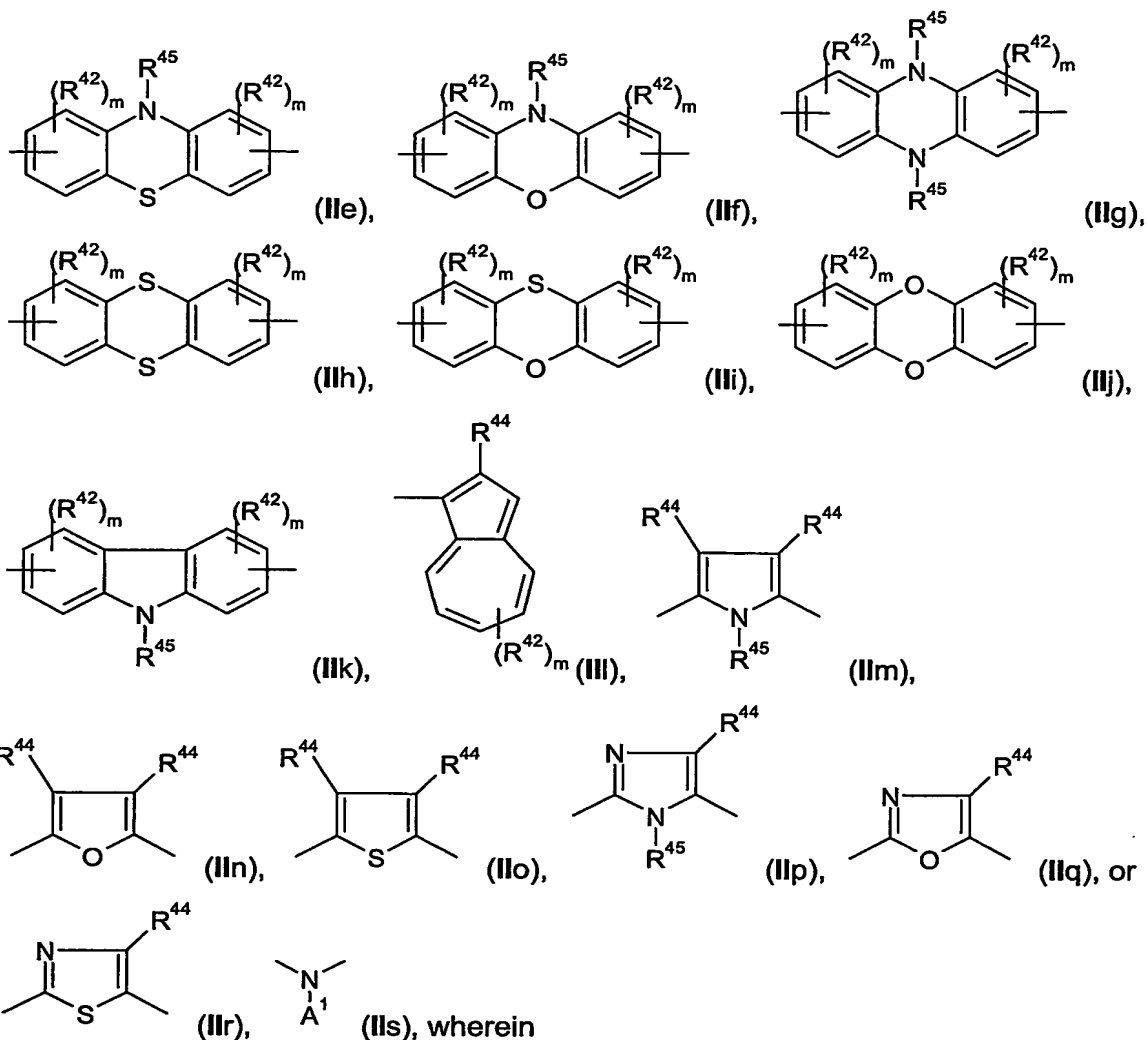


(IIc),



(IIId),

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R^{41} can be the same or different at each occurrence and is Cl, F, CN, $N(R^{45})_2$, a C_1 - C_{25} alkyl group, a C_4 - C_{18} cycloalkyl group, a C_1 - C_{25} alkoxy group, in which one or more carbon atoms which are not in neighbourhood to each other could be replaced by $-NR^{45}$ -, $-O$ -, $-S$ -, $-C(=O)-O$ -, or $-O-C(=O)-O$ -, and/or wherein one or more hydrogen atoms can be replaced by F, a C_6 - C_{24} aryl group, or a C_6 - C_{24} aryloxy group, wherein one or more carbon atoms can be replaced by O, S, or N, and/or which can be substituted by one or more non-aromatic groups R^{41} , or two or more groups R^{41} form a ring system;

R^{42} can be the same or different at each occurrence and is CN, a C_1 - C_{25} alkyl group, a C_4 - C_{18} cycloalkyl group, a C_1 - C_{25} alkoxy group, in which one or more carbon atoms which are not in neighbourhood to each other could be replaced by $-NR^{45}$ -, $-O$ -, $-S$ -, $-C(=O)-O$ -, or $-O-C(=O)-O$ -, and/or wherein one or more hydrogen atoms can be replaced by F, a C_6 - C_{24} aryl group, or a C_6 - C_{24} aryloxy group, wherein one or more

carbon atoms can be replaced by O, S, or N, and/or which can be substituted by one or more non-aromatic groups R^{41} , or

two or more groups R^{41} form a ring system;

R^{44} can be the same or different at each occurrence and are a hydrogen atom, a C_1 - C_{25} alkyl group, a C_4 - C_{18} cycloalkyl group, a C_1 - C_{25} alkoxy group, in which one or more carbon atoms which are not in neighbourhood to each other could be replaced by - NR^{45} -, -O-, -S-, -C(=O)-O-, or, -O-C(=O)-O-, and/or wherein one or more hydrogen atoms can be replaced by F, a C_6 - C_{24} aryl group, or a C_6 - C_{24} aryloxy group, wherein one or more carbon atoms can be replaced by O, S, or N, and/or which can be substituted by one or more non-aromatic groups R^{41} , or CN, or

two or more groups R^{44} , which are in neighbourhood to each other, form a ring;

R^{45} is H, a C_1 - C_{25} alkyl group, a C_4 - C_{18} cycloalkyl group, a C_1 - C_{25} alkoxy group, in which one or more carbon atoms which are not in neighbourhood to each other could be replaced by - NR^{45} -, -O-, -S-, -C(=O)-O-, or, -O-C(=O)-O-, and/or wherein one or more hydrogen atoms can be replaced by F, a C_6 - C_{24} aryl group, or a C_6 - C_{24} aryloxy group, wherein one or more carbon atoms can be replaced by O, S, or N, and/or which can be substituted by one or more non-aromatic groups R^{41} ;

m can be the same or different at each occurrence and is 0, 1, 2, or 3, especially 0, 1, or 2, very especially 0 or 1;

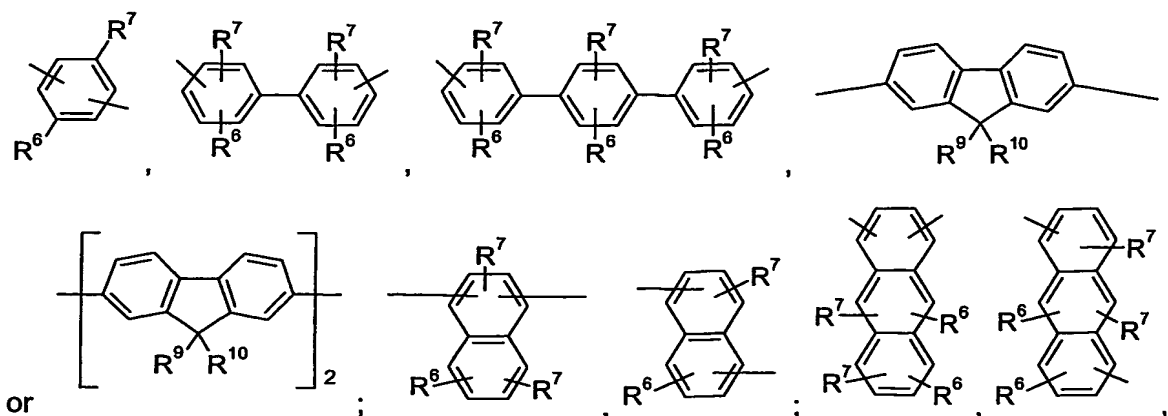
n can be the same or different at each occurrence and is 0, 1, 2, or 3, especially 0, 1, or 2, very especially 0 or 1;

o is 1, 2, or 3, especially 1, or 2, and u is 1, 2, 3, or 4;

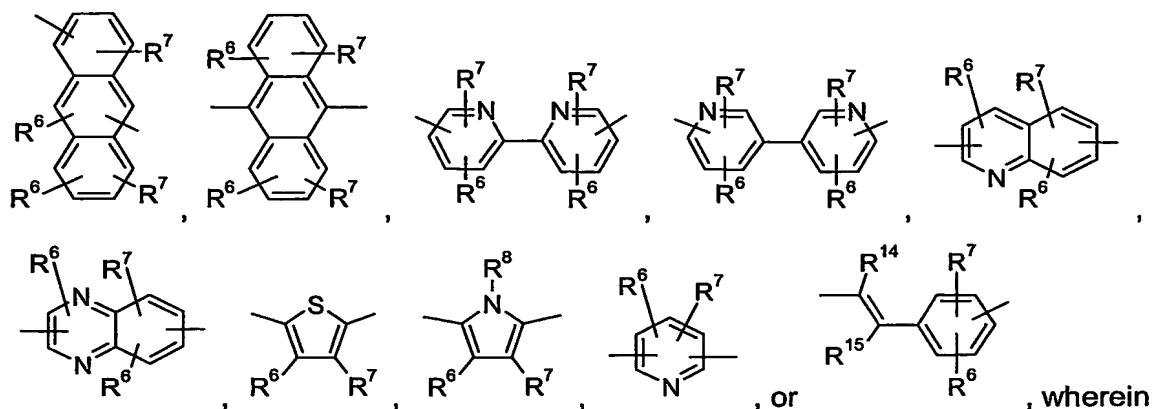
A^1 is a C_6 - C_{24} aryl group, a C_2 - C_{30} heteroaryl group, which can be substituted by one or more non-aromatic groups R^{41} , or NO_2 ,

especially phenyl, naphthyl, anthryl, biphenyl, 2-fluorenyl, phenanthryl, or perylenyl,

A^2 and A^3 are independently of each other a C_6 - C_{30} arylene group, or a C_2 - C_{24} heteroarylene group, which can optionally be substituted, especially



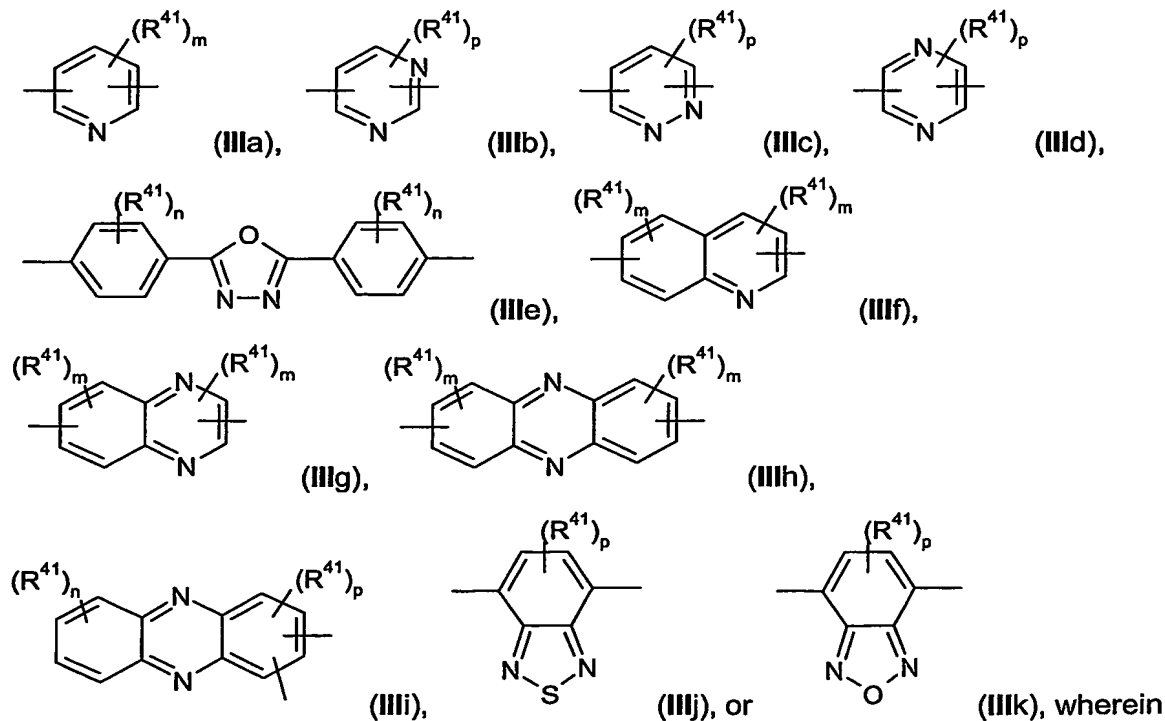
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R^6, R^7, R^9 and R^{10} are as defined above,

R⁸ is H, C₁-C₁₈alkyl, C₁-C₁₈alkyl which is substituted by E and/or interrupted by D, C₆-C₂₄ aryl, or C₇-C₂₅aralkyl,

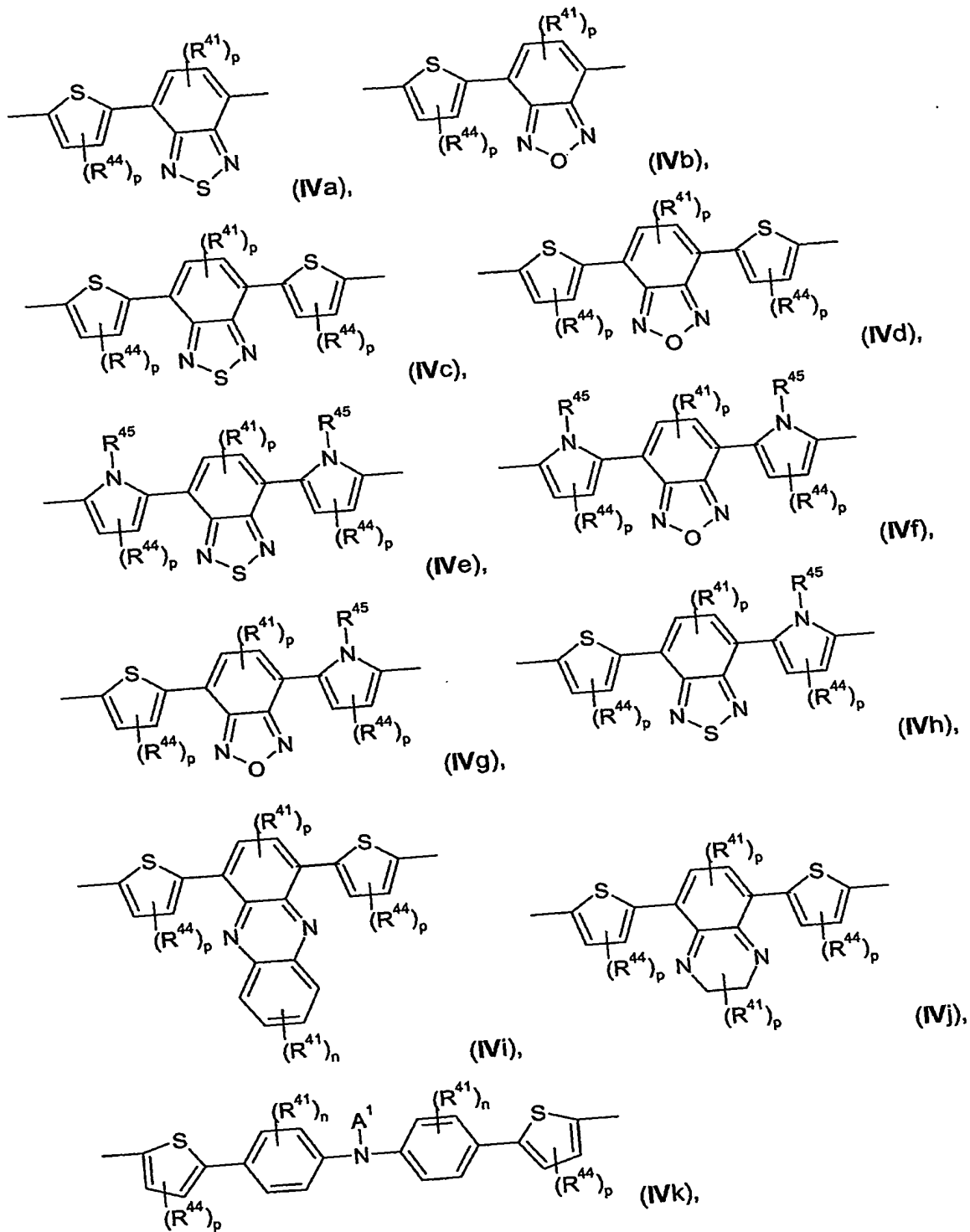
R¹⁴ and R¹⁵ are independently of each other H, C₁-C₁₈alkyl, C₁-C₁₈alkyl which is substituted by E and/or interrupted by D, C₆-C₂₄aryl, C₆-C₂₄aryl which is substituted by E, or C₂-C₂₀heteroaryl, C₂-C₂₀heteroaryl which is substituted by E, wherein E and D are as defined above,



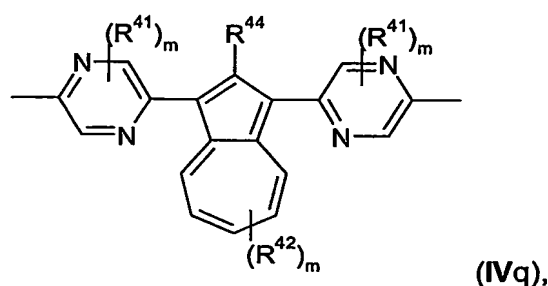
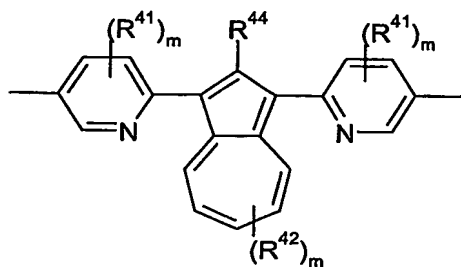
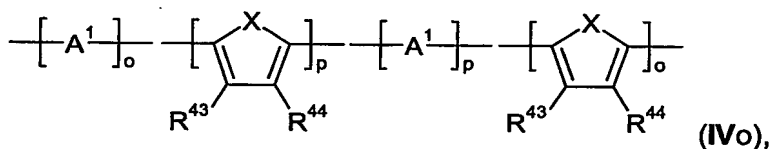
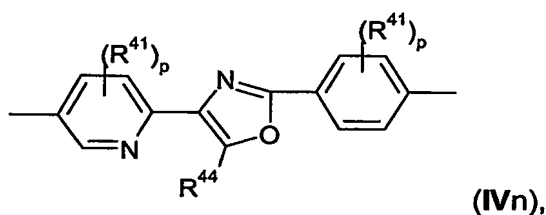
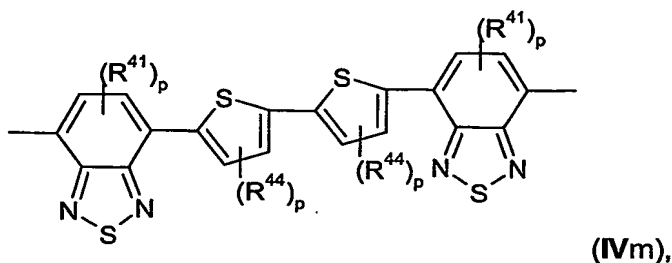
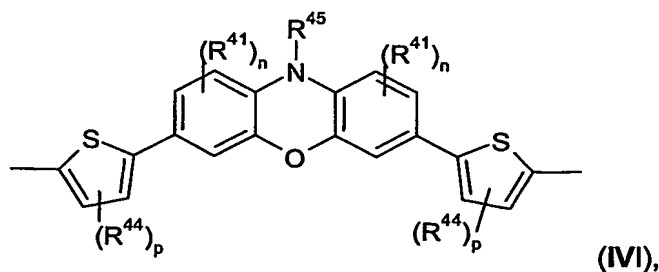
R^{41} and m and n are as defined above and

p is 0,1, or 2, especially 0 or 1;

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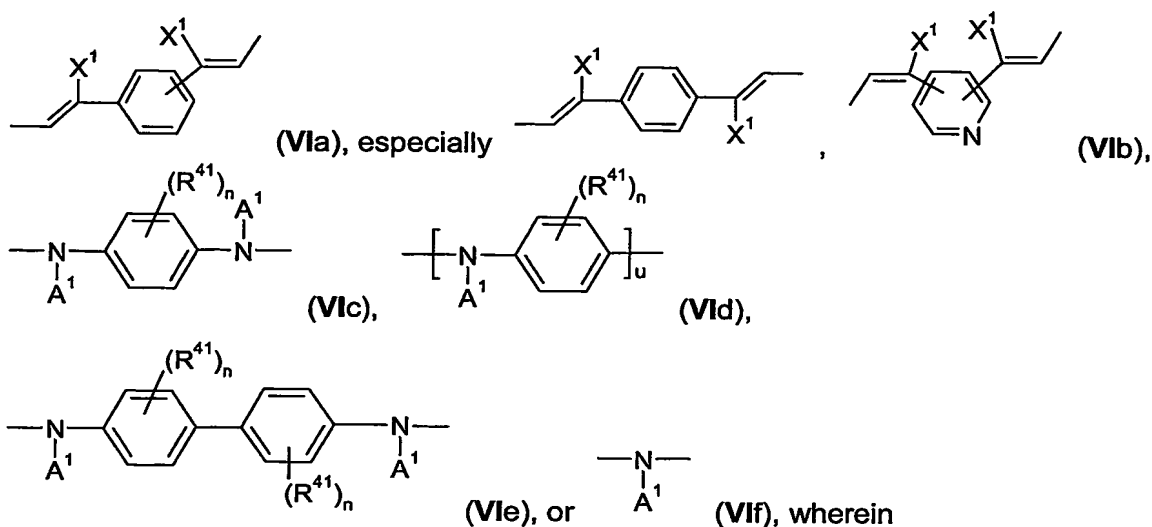
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wherein X is O, S, or NR⁴⁵,

R⁴³ is a hydrogen atom, a C₁-C₂₅alkyl group, a C₄-C₁₈cycloalkyl group, a C₁-C₂₅alkoxy group, in which one or more carbon atoms which are not in neighbourhood to each other could be replaced by -NR⁴⁵-, -O-, -S-, -C(=O)-O-, or, -O-C(=O)-O-, and/or wherein one or more hydrogen atoms can be replaced by F, a C₆-C₂₄aryl group, or a C₆-C₂₄aryloxy group, wherein one or more carbon atoms can be replaced by O, S, or N, and/or which can be substituted by one or more non-aromatic groups R⁴¹, or CN, or two or more groups R⁴³ and/or R⁴⁴, which are in neighbourhood to each other, form a ring; and A¹, R⁴¹, R⁴², R⁴⁴, R⁴⁵, m, n, o and p are as defined above; and/or repeating unit(s) -T- which is selected from the group consisting of

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X^1 is a hydrogen atom, or a cyano group,

R^{41} can be the same or different at each occurrence and is Cl, F, CN, $N(R^{45})_2$, a C_1 - C_{25} alkyl group, a C_4 - C_{18} cycloalkyl group, a C_1 - C_{25} alkoxy group, in which one or more carbon atoms which are not in neighbourhood to each other could be replaced by $-NR^{45}$, $-O-$, $-S-$, $-C(=O)-O-$, or $-O-C(=O)-O-$, and/or wherein one or more hydrogen atoms can be replaced by F, a C_6 - C_{24} aryl group, or a C_6 - C_{24} aryloxy group, wherein one or more carbon atoms can be replaced by O, S, or N, and/or which can be substituted by one or more non-aromatic groups R^{41} , or

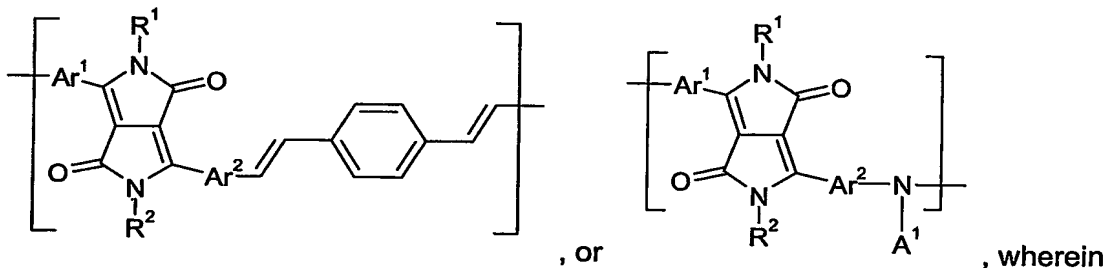
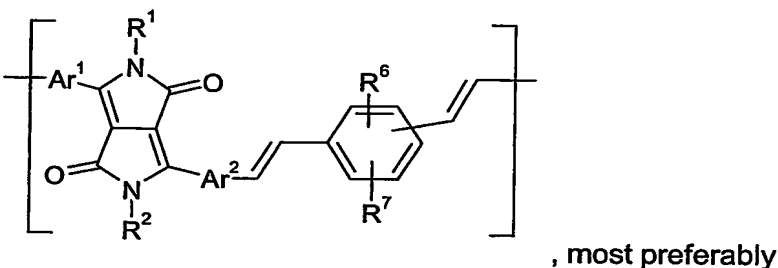
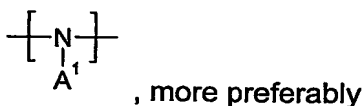
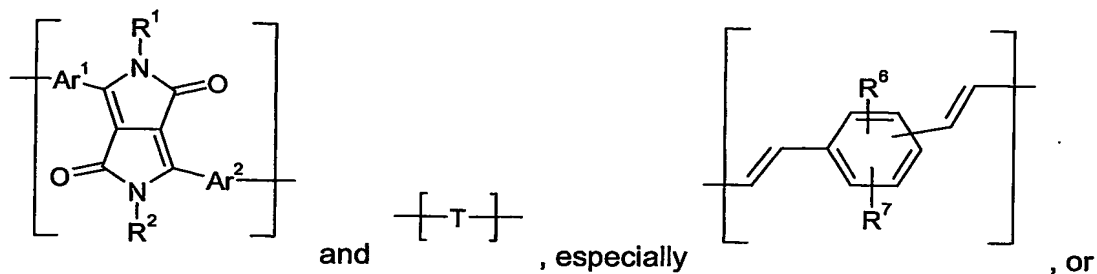
two or more groups R^{41} form a ring system;

n can be the same or different at each occurrence and is 0, 1, 2, or 3, especially 0, 1, or 2, very especially 0 or 1, and u is 1, 2, 3, or 4;

A^1 is a C_6 - C_{24} aryl group, a C_2 - C_{30} heteroaryl group, especially phenyl, naphthyl, anthryl, biphenyl, 2-fluorenyl, phenanthryl, or perylenyl, which can be substituted by one or more non-aromatic groups R^{41} .

5. The polymer according to claim 4, wherein the polymer comprises a repeating unit of formula

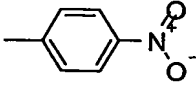
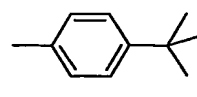
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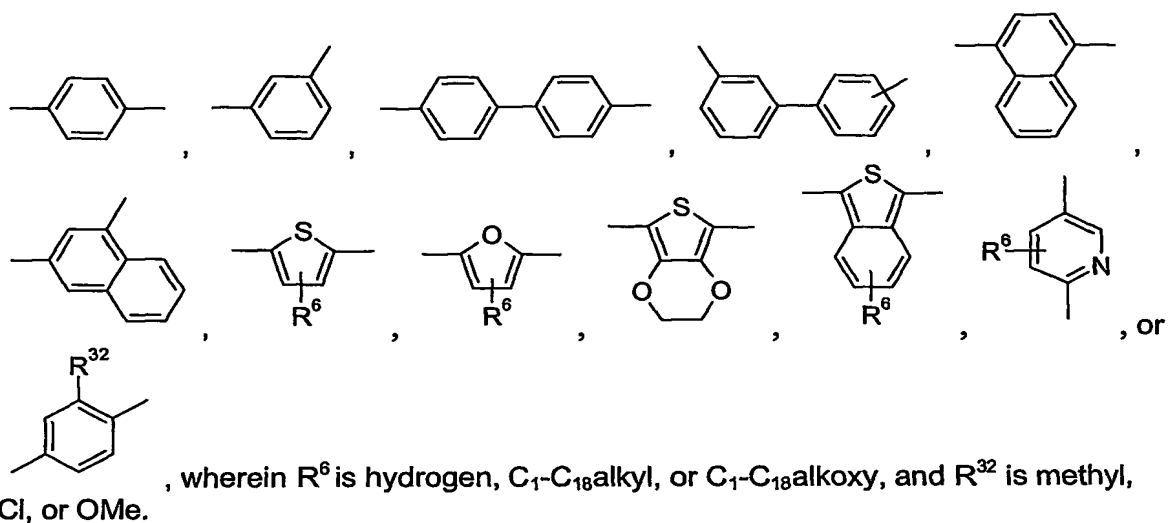
5 R^1 and R^2 are independently of each other a C_1 - C_{25} alkyl group, especially a C_4 - C_{12} alkyl group, which can be interrupted by one or more oxygen atoms,

R^6 and R^7 are as defined above and are especially H, halogen, CN, C_1 - C_{12} alkyl, C_1 - C_{12} alkoxy, or C_6 - C_{14} aryl,

10 A^1 is a C_6 - C_{24} aryl group, a C_2 - C_{30} heteroaryl group, which can be substituted by one or more non-aromatic groups R^{41} , or NO_2 , preferably a phenyl group, which is substituted

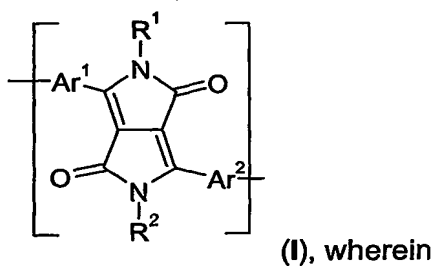
by C_1 - C_4 alkyl, or NO_2 , in particular , , or an anthryl group, in particular an anthr-2-yl group, and A^1 and A^2 are independently of each other a group of formula

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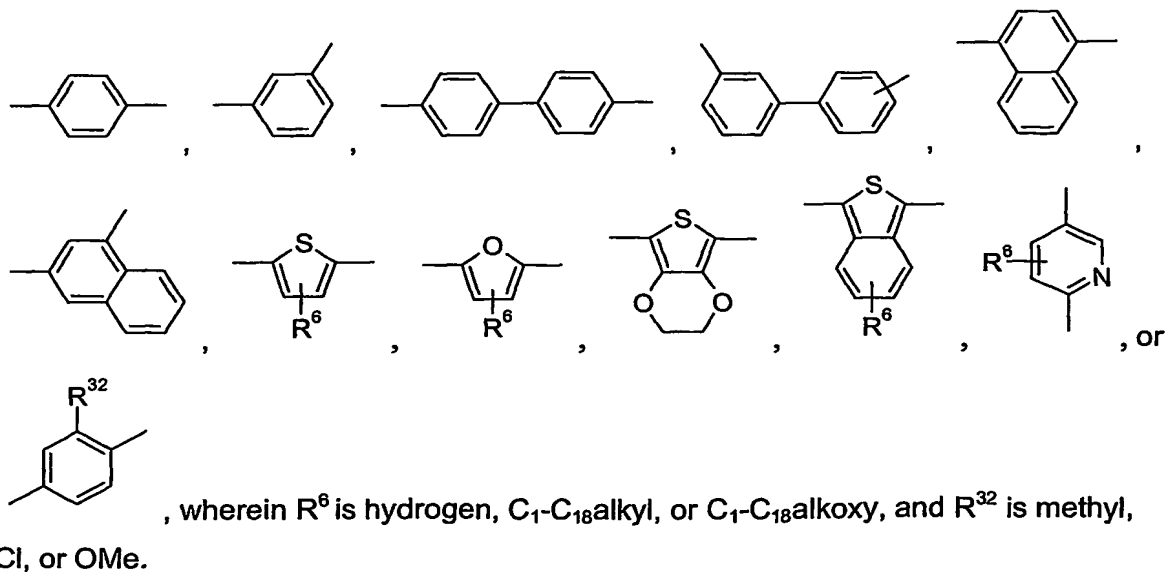


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6. The polymer according to claim 1, wherein the polymer is homopolymer comprising a repeating unit of formula



R^1 and R^2 are independently of each other a C_1 - C_{25} alkyl group, especially a C_4 - C_{12} alkyl group, which can be interrupted by one or more oxygen atoms, and Ar^1 and Ar^2 are independently of each other a group of formula

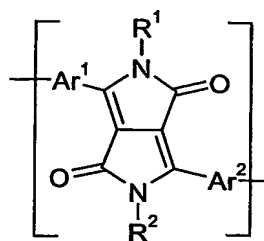


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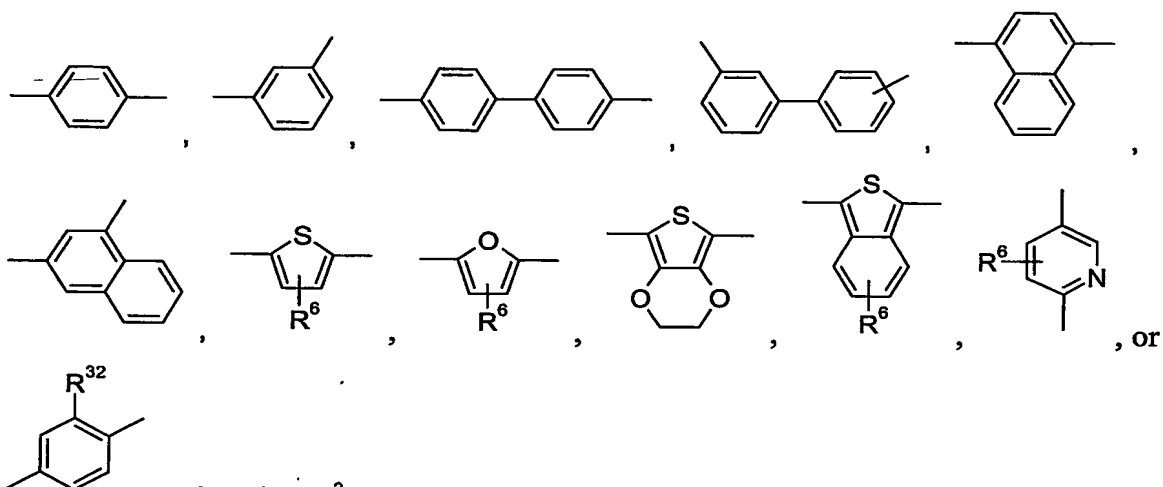
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7. The polymer according to claim 1, wherein the polymer comprises a repeating unit of formula

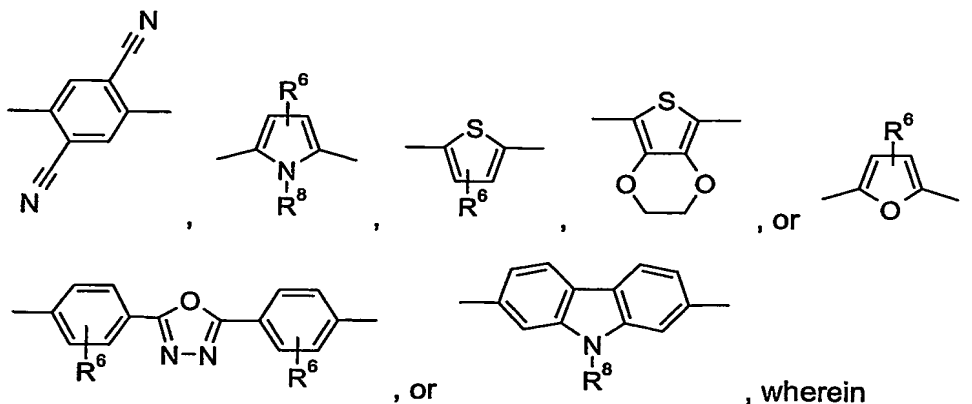


(I) and a repeating unit $\left[\text{Ar}^3 \right]$, wherein

R^1 and R^2 are independently of each other a C_1 - C_{25} alkyl group, especially a C_4 - C_{12} alkyl group, which can be interrupted by one or more oxygen atoms, and Ar^1 and Ar^2 are independently of each other a group of formula



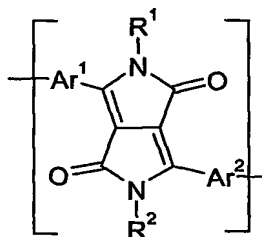
, wherein $-\text{Ar}^3-$ is a group of formula



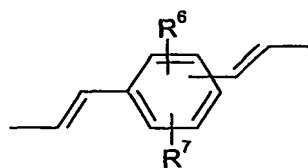
R^6 is hydrogen, C_1 - C_{18} alkyl, or C_1 - C_{18} alkoxy, and R^{32} is methyl, Cl, or OMe, and R^8 is H, C_1 - C_{18} alkyl, or C_1 - C_{18} alkyl which is substituted by E and/or interrupted by D, especially C_1 - C_{18} alkyl which is interrupted by $-\text{O}-$, wherein D and E are as defined in claim 4.

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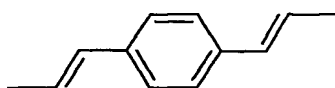
8. The polymer according to claim 1, wherein the polymer is a terpolymer comprising a repeating unit of formula



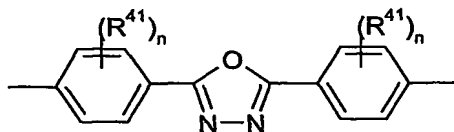
(I), a repeating unit of formula



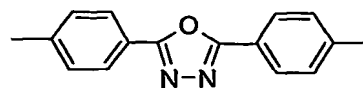
, especially



, and a repeating unit of formula of formula

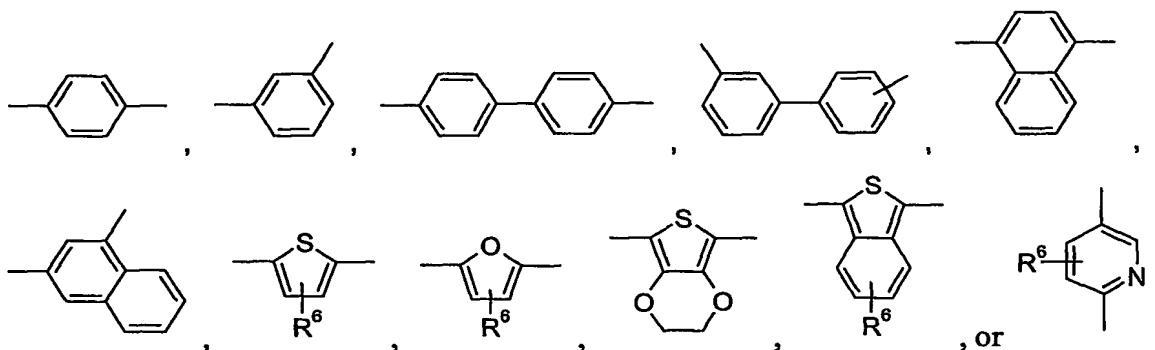


, especially



, wherein

R^1 and R^2 are independently of each other a C_1 - C_{25} alkyl group, especially a C_4 - C_{12} alkyl group, which can be interrupted by one or more oxygen atoms, and Ar^1 and Ar^2 are independently of each other a group of formula



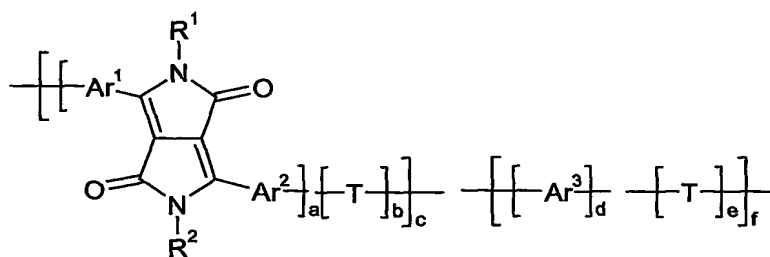
R^6 and R^7 are independently of each other H, halogen, CN, C_1 - C_{12} alkyl, C_1 - C_{12} alkoxy, or C_6 - C_{14} aryl,

R^{41} is Cl, F, CN, $N(R^{45})_2$, C_1 - C_{18} alkyl, C_1 - C_{18} alkoxy, or C_6 - C_{14} aryl, wherein

R^{45} is H, a C_1 - C_{25} alkyl group, or a C_1 - C_{25} alkoxy group, and

n is 0, 1, or 2.

9. The polymer according to claim 1, wherein the polymer is a polymer of formula



(VII), wherein

R^1 , R^2 , Ar^1 , Ar^2 , T and Ar^3 are as defined in claim 1,

a is 1,

b is 0, or 1,

c is 0.005 to 1,

d is 0, or 1,

e is 0, or 1, wherein e is not 1, if d is 0,

f is 0.995 to 0, wherein the sum of c and f is 1.

10. An electronic device or a component therefore, comprising the polymer according to any of claims 1 to 9.
11. An electronic device according to claim 10, wherein the device comprises an electroluminescent device.
12. An electronic device according to claim 11, wherein the electroluminescent device comprises
 - (a) a charge injecting layer for injecting positive charge carriers,
 - (b) a charge injecting layer for injecting negative charge carriers,
 - (c) a light-emissive layer located between the layers (a) and (b) comprising the polymer according to any of claims 1 to 9.
13. Use of the polymers according to any of claims 1 to 9, in polymer light emitting diodes (PLEDs), especially as electroluminescent material.
14. PLEDs, organic integrated circuits (O-ICs), organic field effect transistors (OFETs), organic thin film transistors (OTFTs), organic solar cells (O-SCs), or organic laser diodes comprising one or more of the polymers according to any of claims 1 to 9.